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SURVEY OF BLACK HILLS BEETLE INFESTATION IN PONDEROSA PINE - LONG PINES DIVISION OF CUSTER NATIONAL FOREST

1948

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SURVEY OF BLACK HILLS BEETLE INFESTATION IN PONDEROSA PINE - LONG PINES DIVISION OF CUSTER NATIONAL FOREST 1948

By A. L. Gibson

An infestation of the Black Hills beetle in ponderosa pine on the Long Pines Division of the Custer National Forest was reported during the summer of 1947. Examination of the area revealed only a few scattered red-tops (1946 attacks) and no new attacks. In 1948, however, it was apparent that a decided increase had occurred. Through cooperation with the Fort Collins Laboratory, Mr. McCambridge made a rather thorough examination of the area which revealed epidemic conditions and prompted his recommendations of an intensive survey.

From November 11 to 20th, the writer and one assistant were engaged in making this survey, under decidedly adverse weather conditions. Just prior to our arrival on the project a snowstorm placed an average of one foot of snow on the area to be examined, blocking the forest roads to the use of ordinary motorized equipment. A day with temperatures above freezing caused some settling of the snow but other storms immediately following increased the depth. Another warm day resulted in a crust not quite heavy enough to support one's weight.

Travel of forest roads under above conditions was made possible by the use of a "6 x 6" truck and a Dodge "Power Wagon" to "open up" the snow-blocked roads. The equipment was supplemented by a crew of men to shovel out drifts too deep for the trucks to negotiate. The use of this equipment and men, and Ranger Flathers' cooperation contributed materially to this project.

Infestation was found to be concentrated in seven sections in Range 61 East and Townships 2 South and 3 South. Estimates of acreage infested and trees attacked in 1948 were 2656 and 1755 respectively.

Brood development of the Black Hills beetle on the Long Pines Division was found to be quite variable. Trees were examined in which the attacking insects had only penetrated as far as the cambuim. The number of such trees observed were

few. They were unusually difficult to detect, due to snow covering the boring dust at the base of the trees. This is the main indicator of such types of attacks. The strip runners were fortunate if the only other indicator of such attacks was visible. This indicator is a small accumulation of dust in bark crevices. Wind will remove, or a snow-plastered bole obscure it.

Other attacked trees, almost as difficult to determine, were those in which egg galleries were less than five inches long. Pitch tubes on such trees were either inconspicuous or absent. However, more boring dust was usually present in the bark crevices of such trees.

A further handicap to the detection of attacked trees encountered, was the snow covering of part of the bole by wind action. As this was a general condition, it necessitated additional walking on a strip in order to thoroughly examine such trees. The foot-deep snow was not quite heavily enough crusted to support one's weight and the additional walking was decidedly tiring, as well as serving to decrease the amount of effective work per day.

Most of the attacked trees contain brood in the egg and larval stages; large larvae being in the highest ratio. A few trees contained pupae and callow adults and some emergence of callow adults had already occurred in some of these trees. Under such conditions of brood development, it is reasonable to expect a long period of attack during 1949 with possibly three peaks in number of attacks. The overwintering callow adults may be expected to attack early in the 1949 season with the major emergence possibly a month to six weeks later and the third peak in late summer.

The data for the infested area, divided up into the sections included, are shown in the following tabulations:

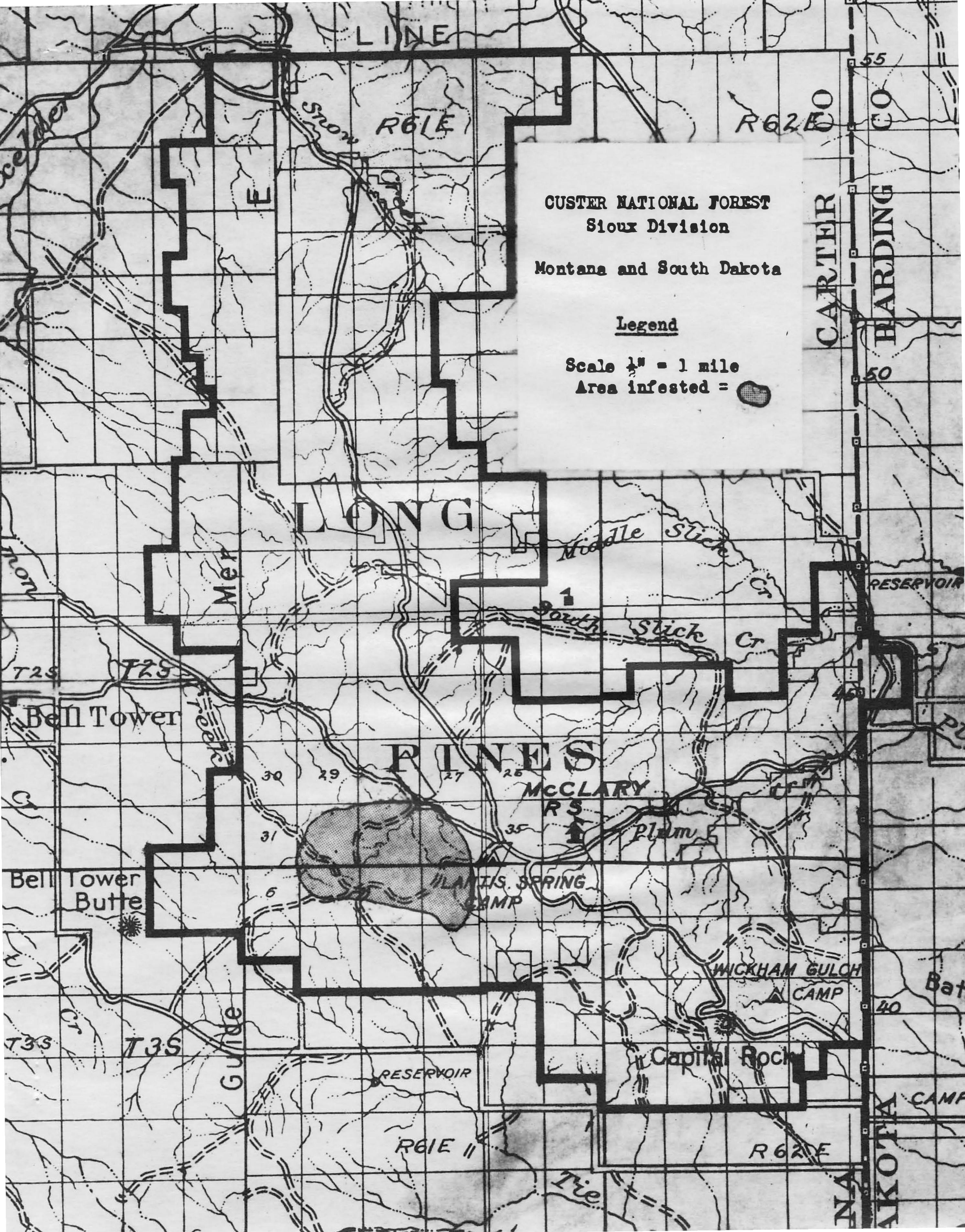
Black Hills Beetle Infestation on the Long Pines Division

of the Custer National Forest in 1948

Location	Sec.	Infested Acreage	Acreage of Sample Strip	Average Attacked Trees per acre	Total Trees on area
R61E T2S	28	16	6.2)		
	32	464	20.0)	.829	1204
	33	638	37.5)		
	34	334	29.2)		
		1452			
R61E T3S	3	476	34.0)		
	4	400	26.0)	.458	551
	5	328	18.5)		
		1204			
TOTAL		2656	171.4		1755

Much, if not all control work, could be done to advantage from a camp at McClary Ranger Station.

In company with Ranger Flathers, the writer spent one day examining the Slim Buttes Division. No infestation of the Black Hills beetle was observed. It is believed a representative sample of the area was surveyed.


CUSTER NATIONAL FOREST
Sioux Division
Montana and South Dakota
Legend
Scale ½" = 1 mile
Area infested =
LINE
R61E
R62E
CARTER CO
HARDING CO
55
50
LONG
PINES
Middle Slick Cr
South Slick Cr
RESERVOIR
Mer
T2S
Bell Tower
30
29
27
26
McCLARY
RS
31
35
Plum
LANTIS SPRING CAMP
Bell Tower Butte
6
WICKHAM GULCH CAMP
40
Capital Rock
T3S
Guide
RESERVOIR
R61E
R62E
Tie
DAKOTA
CAMP